NIOSH PPT Program Evidence Package Aug 30, 2007

Appendix Q

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Requests for Information/Assistance

Appendix Q provides a sampling of the types of information and technical assistance requests that the PPT Program responds to regularly. Program activities vary in levels of expertise and resource expenditures by the type and complexity of the request. Requests for expert or peer review of publications and other products is an example of a specific area of requests received on a routine basis by the Program's scientists and researchers which have been excluded from this listing.

Mine Safety and Health Research Advisory Committee (MSHRAC), National Institute for Occupational Safety and Health, of the Department of Health and Human Services

PPT program officials report, as appropriate during regularly-scheduled committee meetings, on PPT research activities related to mine safety and health, to obtain committee advice on priorities. (annually or semi-annually).

<u>Formal Request (June 2007, State of Virginia Department of Emergency Management)</u>

Hazardous materials officer, Region 1, Virginia Department of Emergency Management invited PPT scientist to lecture hazardous materials responders at the upcoming Virginia Association of Hazardous Materials Response Specialists/Virginia Department of Emergency Management Hazardous Materials Conference, October 15-19, 2007, Norfolk, VA. PPT scientists and engineers accepted the invitation.

<u>Informal Request (June 2007, Battalion Chief-Special Operations, Seminole County</u> Fire Department, Florida)

A fire service battalion chief requested public information links concerning NIOSH CBRN respirator approvals. PPT scientists provided NIOSH electronic links to NIOSH CBRN SCBA, APR, APER and PAPR approvals.

<u>Informal Request (June 2007, Department of Homeland Security, Federal Law Enforcement Training Center (FLETC), Glencoe, GA)</u>

PPT scientists and engineers received a request from a senior FLETC instructor asking for sources and relevant guidance on the CDC's position concerning decontamination of CBRN agents. PPT scientists replied with source links detailing the CDC decontamination methods used in the Washington, DC, Ricin incident; NIOSH Emergency Response Cards on Mustard agent; and NIOSH CBRN SCBA and APR Cautions and Limitations related to decontamination.

<u>Informal Request (June 2007, COBRA Awareness Unit, Special Training Section, New York Police Academy, New York City, NY (NYPD))</u>

PPT scientists and engineers were asked user questions related to the service life of NIOSH-certified CBRN APR canisters. A timely reply was provided to NYPD with a follow up. NIOSH replies focused on validating conclusive information provided by the respirator manufacturer to NYPD and verifying the user and canister performance requirements of CBRN canister in its original manufacturer specified packaging versus the canister in a "training" configuration/open and outside of its manufacturer specified packaging.

<u>Informal Request (June 2007 Taiwan China Medical University Department of Occupational Safety and Health</u>

A PPT scientist was invited to give a presentation at the Taiwan China Medical University Department of Occupational Safety and Health on respirator basics, respirator

selection and fit-testing. The two-day presentation on June 5 and 6, 2007 was attended by 150 students, faculty, and invited guests. As a result of this presentation the PPT scientist was requested to make a presentation at the Taiwan Institute of Occupational Safety and Health on June 7, 2007 on respirator testing and certification. This request was accommodated and well received by the staff of the Institute.

Informal Request (May 2007, Department of Veteran's Affairs (VA))

PPT personnel were requested to release a summary report of the first third of an ongoing research study to the VA so that they could avoid unnecessary duplication of effort with the ongoing NIOSH/DoD research. The collaborative action provided information to another government agency prior to research study was completed and results released to the public. This is an example of the PPT program reaching out to other governmental agencies to assist in their missions.

Informal Request (May 2007, Mine Safety Appliances Company)

MSA product line manager requested PPT scientists provide formal interpretation on usage of CBRN PAPR with tight-fitting facepieces versus CBRN PAPR with loose-fitting facepieces intended for health care worker use. PPT management requested a formal letter from MSA outlining the specific inquiry in question and also provided a electronic reply directing the product manager to the NIOSH-approved CBRN PAPR interim user webpage guidance, the NIOSH Certified Equipment List (CEL) and recommendations on configuration management at the user level and NIOSH interpretation of approval holder user instructions related to use of CBRN PAPR (loose or tight-fitting facepiece configurations).

<u>Informal Request (May 2007, United States Secret Service)</u>

USSS asked PPT scientists to confirm that MSA and Scott (NIOSH approval holders) have recently received NIOSH approval for select CBRN PAPR systems. PPT scientists replied by providing the USSS with the NIOSH electronic website link for CBRN PAPR approvals, the NIOSH CEL link and generic NIOSH recommendations for use of manufacturer user instructions related to the emergency response use of NIOSH-certified CBRN PAPR.

<u>Defense Threat Reduction Agency (DTRA) Chemical Biological Defense Initiative (May 2007, DTRA)</u>

PPT scientists were requested to participate on an interagency team to evaluate proposals for CBDIF-07-PRO-14 Revolutionary Respiratory/Ocular Protection Concepts under the DTRA FY2007 CBD Extramural Broad Agency Announcement (BAA) Program.

2008-2011 Americas Initiative to Eliminate Silicosis (November 2006/May 2007, Chilean Government)

A PPT scientist was requested to participate on an international Silica Team to develop a proposed plan for respiratory protection for the Elimination of Silicosis in the Americas.

Inhalation

The WHO, PAHO, and ILO are participants with NIOSH, with an initial focus on Chile and Brazil.

Nanoscale Interdisciplinary Team (NIRT) (Carnegie Mellon University (CMU))

A PPT scientist was invited to become a member of a multi-university program funded by the National Science Foundation to use a combination of macromolecular engineering, self-assembly, and solid state chemistry to develop a new generation of well-defined nanostructured carbons for electronics. Some of the potential applications could be sensors, fabrics, and super adsorbents aside from electronic components.

Formal Request (April, 2007, CDC/NIOSH/Education and Information Division (EID) via a DOJ FBI -SWGFACT request to NIOSH EID)

NIOSH EID requested PPT scientists provide technical performance information on the subject of "non-oxidizable sorbent" identified in the NIOSH Chemical Hazard Pocket Guide as a type of respirator filtration media available to responders/users when protecting against red fuming nitric acid/nitric acid atmospheres. PPT engineers and scientists provided source information on non-oxidizable sorbents available from stakeholders that manufacturer chemical agent sampling tubes. PPT scientists confirmed that the CBRN APR, APER and PAPR canisters will protect against test representative samples of nitric acid in a laboratory environment.

Formal Request (March, 2007, National Fire Protection Association (NFPA) 472 Committee on Hazardous Material Responder Training and Accreditation)

The chair of the NFPA 472 committee invited PPT scientists to provide technical comment to the respirator use decision logic being considered for integration in the upcoming edition of the NFPA Hazardous Materials Response Handbook. PPT scientists provided extensive written comment and NFPA review of NIOSH comments is pending with expected integration in October 2007.

Request for Committee Participation for ASTM Standard for Air-Feed Suit Evaluation Requirements (March 2007, DOE/EFCOG)

PPT scientists were recruited to work with DOE and ASTM in the identification of these potential performance requirements for Air Suits.

Formal Request (January 2007, National Tactical Officers Association (NTOA) A lead tactical SCBA training instructor from the NTOA asked PPT scientists to provide cutting edge training aids and user guides for both CBRN and non-CBRN SCBA and APR law enforcement users. PPT engineers and scientists accepted the invitation and are in the formal process of submitting NIOSH numbered documents for review and publication.

Informal Request (December 2006, Royal Military College of Canada)

A PPT scientist was requested to provide information presented in a presentation at the International Convention of the International Society for Respiratory Protection in

Inhalation

Toronto for use in development of a new standard, DO29R "Protecting the First Responder Against CB Threats."

<u>Informal Request (October 2006, CFIOSH (GB))</u>

A request was made of a PPT scientist to provide more insight and information on the accuracy of Body Mass Index in determining overweight and obese states in muscular individuals. The scientist was asked to provide a more definitive response than provided in a peer-reviewed article he had authored which was published in the International Society for Respiratory Protection Journal.

Informal Request (October 2006, Med Dir W NY Poison Control Center)

A PPT scientist was requested regarding recommended respiratory protective equipment in the event of a pandemic flu outbreak. The Poison Center serves as a resource for area hospitals and municipal services (e.g., EMS, fire, police, etc.) in the region (e.g., Rochester, Buffalo, etc.).

Informal Request (October 2006, University of Cincinnati)

A PPT researcher was asked to serve on the external advisory board and collaborate on a research team in recognition of his expertise in evaluating the performance of respirators in field settings. The research study's pilot data on the WPF on biological particles were presented at the 2005 AIHCE conference and the subsequently published article by Lee et al. (JOEH, 2:577-585, 2005) was awarded the AIHA 2005 John M. White Award for research on respiratory protection. This paper presents very intriguing results on the difference in the WPF data between biological and non-biological particles.

Occupational Health and Safety Seminar in Chile (September 2006, Mutual – Chile)

A member of the PPT staff was requested to make a presentation on trends in analyzing task and control measures in manufacturing industries, particularly SME and the American approach to selection and use of PPE.

Informal Request (September 2006, Chilean Institute of Public Health)

A member of the PPT staff was requested to present information on the use of the PortaCount instrument in fit-testing respirators. The PPT representative provided testing protocols for use with the PortaCount and provided informational resources such as various websites related to Standard Test Procedures, Respirator User Notices, Letters to Manufacturers, and fit-testing.

Informal Request (September 2006, AIHA)

Two PPT scientists were requested to take part on a roundtable teleconferenced training course conducted by the AIHA conducted on September 27, 2006. This presentation was broadcast to 296 members at 73 sites.

Formal Request (August 2006, United States Secret Service (USSS), Department of the Treasury)

A technical security division specialist from the USSS asked PPT scientists to elaborate on what specific toxic industrial compounds (TIC) NIOSH uses to test CBRN airpurifying respirators and to provide a courtesy review of USSS Project Hammer respirators for compliance to NIOSH CBRN respirator standards and certification promulgation. PPT scientists and engineers accepted the USSS invitation to visit NIOSH in Pittsburgh and a detailed list of open-source respirator technology topics covering TIC and approval compliance was provided to the USSS. The USSS in return hosted a joint NIOSH, US ARMY, Natick, and Orange County Sheriff's Department visit to the USSS facility in Washington, DC. PPT scientists provided a courtesy technical review of all available respirators and protective ensembles used by the U.S. Secret Service in support of protecting presidential security details from chemical, biological, radiological, or nuclear agent effects.

Informal Request (July 2006, Massachusetts state firefighting academy)

PPT scientists were questioned in the selection criteria and applicability of powered air purifying respirators (PAPRs) as escape respirators. A reply explained that different PAPRs have different features and that some (those with a tight-fitting neck dam that had undergone fit-testing) could be so used. References from specific documents and websites that clearly outlined the respiratory equipment selection logic were given.

Request for Technical Presentation (July 2006, Richmond, VA)

A PPT scientist presented "NIOSH Respirator (CBRN) Standards Development" at the Fourth Annual TICs and TIMs Symposium. The information was presented to a group of 48 scientific experts and first responders. The purpose of this symposium is to provide government agencies and industry with the latest information on toxic industrial chemical response strategies and tools and to present the latest results from the research community as it continues to further our understanding of the TIC threat and improved responses, and to provide a forum for interaction among the DOD and First Response community and tool developers, and to foster interaction between the many government agencies now dealing with the TIC threat.

<u>Formal Request (August 2006, U.S. Department of Transportation: Office of Hazardous Materials Initiatives and Training, PHMSA, DOT)</u>

PPT scientists and engineers were invited by the DOT to comment on the Emergency Response Guide 2004 (ERG 2004) for the purposes of updating the ERG 2004 to the next edition (ERG 2008). On June 8, 2007, Mike Cloutier and George Cushmac, lead authors of the ERG 2008, contacted PPT scientists to confirm NIOSH comments submitted on September 15, 2006. PPT scientists confirmed the comments and are currently working with DOT to finalize CBRN respirator terminology in the pending ERG 2008 due out on or around January, 2008.

Presentations on Respiratory Standards Development, Participation on Consensus Standards Committees, and Personal Protective Technology Review (July 2006, Health & Safety Advisor, Department for Communities and Local Government, Fire & Resilience Directorate, London, UK. United Kingdom – Fire & Resilience Directorate)

PPT subject matter experts were solicited to present information on Respiratory Standards Development, Participation on Consensus Standards Committees, and Personal Protective Technology Review as a precursor for future interactions and information sharing between this UK Directorate and NIOSH in development of standards for public safety and emergency responders.

Request for Subject Matter Expertise Availability (March – June 2006, MSHA)

In the aftermath of the Sago, Alma, and Darby mine disasters, PPT scientists were recruited based on specialized knowledge, to assist MSHA in their investigations, as well as providing technical expertise to stakeholders (including NMA/BCOA/UMWA), at MSHA Public Meeting on proposed Emergency Temporary Standard (ETS), Charleston, WV and an international workshop arranged by WV Governor's Office and NIOSH, WV Governor's Taskforce on Mine Emergencies. Investigations involved SCSR performance and the design of underground refuge chambers. The MINER Act and MSHA's PPL dealing with implementation will impact NPPTL's long-standing involvement in SCSR issues, as well as the development of new technology

Stakeholder meeting for a strategy for a national survey of PPE use by women (June 2006, NIOSH/DART)

PPT personnel were requested to attend as well as identify appropriate contacts for external stakeholders including public safety, emergency response, professional, and labor organizations, and associations to participate in this activity.

Emergency Responder Interactive Response Training Program, Department of Homeland Security (DHS) Office for Grants & Training with Dartmouth College Interactive Media Laboratory (July 2006, Director of the Dartmouth College - Interactive Media Laboratory)

PPT scientists provided updated and accurate selection, performance, and certification standards (NIOSH & NFPA) information related to respiratory protection and protective ensembles Personal Protective Equipment for correction of video training tool.

<u>Business Match Making Workshop, Regional Learning Center, Cranberry</u> <u>Township, PA (June 2006, Congresswoman, Melissa Hart, and the Small Business</u> <u>Administration)</u>

The PPT program requested to participate in Business Match Making Workshop with Congresswoman Melissa Hart and the Small Business Administration to facilitate involvement of small businesses in transferring first responder needs and requirements to innovative PPT products.

Inhalation

Request for Technical Presentation (May 2006, ORC Worldwide)

A PPT subject matter expert was requested to provide a technical presentation on the mathematical modeling and sensor development for end-of-service-life measurement tools. The audience consisted of approximately 80 corporate safety and health professionals.

<u>New England Consortium (NTEC), (May 2006, The New England Consortium – Advisory Board)</u>

A PPT scientist participated to share information for inclusion in TNEC training courses on selection and use of inhalation and dermal protective equipment, OSHA 1910.34 respiratory protection standard, NIOSH 42CFR84 respirator standard, and NIOSH CBRN respirator standards. Selection and use training for hazmat protective ensembles related to NFPA standards is also included.

<u>Project Review Subject Matter Expertise (April 2006, Department of Homeland Security and DoD, Technical Support Working Group (TSWG))</u>

Subject matter experts in closed circuit breathing apparatus technology participated in a meeting at Essex PB&R Corporation, St. Louis, MO. The meeting was attended to review DHS funded Essex rebreather to provide technical consultation, oversight, and direction to research and product development in a DHS-funded research program.

<u>Informal Request (December 2005, DoD/Optimetrics)</u>

A request was made for a PPT scientist to perform a literature search regarding quantitative data from decontamination studies of toxic industrial chemicals. A quality review was required for it, incorporating the data into a computerized modeling program that will allow OptiMetrics to determine levels of toxic industrial chemicals that might be deposited in Emergency Departments by victims who are not decontaminated.

Request for Subject Matter Expert for Peer-Reviewer (May 2005, Editor-in-chief of Journal of Occupational and Environmental Hygiene)

A PPT subject matter expert was recruited to provide a peer review of a manuscript "Performance while wearing full-facepiece respirators with various combinations of inhalation and exhalation resistances." The study found significant reduction in performance time and rating as inhalation increased. The exhalation resistance levels used in the study did not affect the performance statistically. Various relationships were established such as relationship between performance time and work of breathing and relationship between performance time and inhalation resistance.

Request for Technical Presentation (September 2003, Chicago, IL)

A PPT scientist presented "Introduction to Factors in Selecting an Appropriate Respirator" and "Introduction to Respirator Basics" to more than 100 clinical toxicologists at the North American Congress of Clinical Toxicologists, Chicago Illinois, September 6, 2003.

Inhalation

Request for Technical Presentation (July 2003, Cincinnati, OH)

A PPT scientist presented "Inhalational Anthrax: Risk Assessment Perspectives" at the 2003 Ohio Chapter Society for Risk Analysis Annual Symposium: Cincinnati, in Cincinnati Ohio to 75 risk assessment specialists in July 29, 2003.

Request by DoD for Training Expertise (July 2002, CHPPM Edgewood, APG, MD

PPT personnel were requested to provide an Industrial Hygiene training course on the NIOSH/NPPTL CBRN SCBA program, its origins, its status, and its integration with facilities at the Edgewood Area.

Dermal

Mine Safety and Health Research Advisory Committee (MSHRAC), National Institute for Occupational Safety and Health, of the Department of Health and Human Services

PPT program officials reported, as appropriate during regularly-scheduled committee meetings, on PPT research activities related to mine safety and health, to obtain committee advice on priorities (annually or semi-annually).

Informal Request (May 2007, Department of Defense (DoD))

Additional information was requested from PPT staff concerning the calculations performed by the Permeation Calculator developed by PPT program staff. Experimenter bias and possible calculation errors are avoided when the normalized breakthrough time is determined for chemical protective clothing (CPC) permeation parameters with this software. The program imports data and then calculates the permeation parameters, avoiding possible errors from the use of polynomial curve fitting, polynomial derivatives, and quadratic equations.

<u>CBT-08-PRO-07 Protective Fabric System Model – contract proposal review (May 2007, Defense Threat Reduction Agency (DTRA) Chemical Biological Defense Initiative)</u>

A PPT scientist provided technical review and rating of proposals under the DTRA FY2007 CBD Extramural Broad Agency Announcement (BAA) Program.

Informal Request (December 2006, Dir. Opn Spt & Analysis - Tex-Shield)

Provided information on the current and proposed NFPA Standards with optional CBRN protection and detailed the similarities and differences between the NFPA Classes and OSHA Levels.

"Firefighter Thermal Exposure Warning System" (September 2006, Georgia Tech University)

PPT scientists were solicited to submit a topic for a senior engineering design project. Technical assistance and guidance requested for the team choosing to work on the research project to design a thermal heat-sensing prototype system that will determine the thermal loading in protective apparel of firefighters and produce a warning for firefighters with a visual and/or auditory cue to retreat, thereby enabling them to better avoid injury.

Emergency Responder Interactive Response Training Program, Department of Homeland Security (DHS) Office for Grants & Training with Dartmouth College Interactive Media Laboratory (July 2006, Director of the Dartmouth College - Interactive Media Laboratory)

PPT scientists provided updated and accurate selection, performance and certification standards (NIOSH & NFPA) information related to respiratory protection and protective ensembles Personal Protective Equipment (PPE) for correction of video training tool.

Dermal

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PPT program requested to participate in Business Match Making Workshop with Congresswoman Melissa Hart and the Small Business Administration to facilitate involvement of small businesses in transferring first responder needs and requirements to innovative PPT products.

Stakeholder meeting for a strategy for a national survey of PPE use by women (June 2006, NIOSH/DART)

PPT personnel were requested to attend as well as identify appropriate contacts for external stakeholders including public safety, emergency response, professional and labor organizations, and associations to participate in this activity.

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A PPT scientist participated to share information for inclusion in TNEC training courses on selection and use of inhalation and dermal protective equipment, OSHA 1910.34 respiratory protection standard, NIOSH 42CFR84 respirator standard, and NIOSH CBRN respirator standards. Selection and use training for hazmat protective ensembles related to NFPA standards is also included.

<u>Homeland Security Advanced Research Projects Agency (HSARPA) (January 2006,</u> Department of Homeland Security (DHS))

PPT scientists were requested to participate on an interagency team to evaluate responses to a Broad Agency Announcement to determine which of the responses would be rated as deserving to be invited to submit full proposals based on an evaluation that determined they offered the most promising chance of success.

Request for Technical Presentation (June 2005, Stockholm, Sweden)

A PPT scientist presented "A Skin Notation, Past Present and Future" at the International Conference on Exposure of the Skin to Chemicals, Stockholm, Sweden; June 12-15, 2005 in the Conference Center at the Karolinska Institute. This conference was attended by more than 200 scientists interested in dermal exposures.

Request for Technical Presentation (May 2003, Dallas, TX)

A team of PPT scientists presented a poster on "Evaluating Dermal Exposure Hazards for Assignment of Skin Notations" at the American Industrial Hygiene Conference and Exposition, Dallas Texas. May 11, 2003. This was awarded Best Risk Assessment Poster.

Injury

Mine Safety and Health Research Advisory Committee (MSHRAC), National Institute for Occupational Safety and Health, of the Department of Health and Human Services

PPT program officials reported, as appropriate during regularly-scheduled committee meetings, on PPT research activities related to mine safety and health, to obtain committee advice on priorities (annually or semi-annually).

Request for Technical Presentation (October 2007, Institute of Electrical and Electronics Engineers (IEEE) Industry Applications Society Annual Meeting, New Orleans)

PPT researcher presenting a research paper concerning the visual performance advantages of light-emitting diode cap lamps in comparison to incandescent cap lamps for the detection of slip/trip/fall hazards in a coal mine.

Serve as Chairperson for the thematic poster session at the annual meeting of the American College of Sports Medicine (ACSM) in New Orleans, LA (May 30-June 2, 2007, Program Committee of the ACSM)

A PPT scientist was recruited to be a Session Chair as well as present a poster session on "Factors which Influence Health and Performance of Firefighters and Military Personnel." The thematic poster session was a featured scientific session at the annual meeting of the ACSM in New Orleans, LA, May 30-June 2, 2007

<u>Defense Threat Reduction Agency (DTRA) Chemical Biological Defense Initiative</u> (May 2007, DTRA)

PPT scientists were requested to participate on an interagency team to evaluate proposals for CBDIF-07-PRO-14 Revolutionary Respiratory/Ocular Protection Concepts under the DTRA FY2007 CBD Extramural Broad Agency Announcement (BAA) Program.

Informal Request (May 2007, Department of Veteran's Affairs (VA))

PPT personnel were requested to release a summary report of the first third of an ongoing research study to the VA so that they could avoid unnecessary duplication of effort with the ongoing NIOSH/DoD research. The collaborative action provided information to another government agency prior to completion of the research study and results were released to the public. This is an example of the PPT program reaching out to other governmental agencies to assist in their missions.

Request for Technical Presentation (April 2007, Chile)

A PPT researcher was formally invited to give lectures at two of Chile's leading universities: the Technical University Federico Santa Maria, Valparaiso, Chile and the Universidad de Concepcion, Concepcion, Chile. The lectures concerned visual performance advantages of light-emitting diode cap lamps to detect mining hazards.

Injury

<u>Informal Request (December 2006, PPE Section of Health & Safety Lab (UK))</u>

PPT scientists were requested to provide information regarding the selection and purchase of a metabolic simulator and research uses for the metabolic simulator in various research scenarios sponsored by NIOSH and NORA.

Informal Request (December 2006, Fairfax, VA Fire Dept)

A member of the PPT staff provided an overview of the research activities of the Research Physiology Laboratory, and first responder focus of research initiatives.

"Hazardous Biochemical Detector" (September 2006, Georgia Tech)

PPT scientists were solicited to submit recommended topics for senior engineering design projects. Both technical assistance and guidance were requested and provided to the team choosing to work on the research project. The team investigated wearable technology to detect environmental biochemical parameters (toxic gases, bad air, etc.) that helps the workers take steps toward preventing work-related injuries to their safety and health.

Emergency Responder Interactive Response Training Program, Department of Homeland Security (DHS) Office for Grants & Training with Dartmouth College Interactive Media Laboratory (July 2006, Director of the Dartmouth College - Interactive Media Laboratory)

PPT scientists provided updated and accurate selection, performance, and certification standards (NIOSH & NFPA) information related to respiratory protection and protective ensembles Personal Protective Equipment (PPE) for correction of video training tool.

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Stakeholder meeting for a strategy for a national survey of PPE use by women (June 2006, NIOSH/DART)

PPT personnel were requested to attend as well as identify appropriate contacts for external stakeholders including public safety, emergency response, professional and labor organizations and associations to participate in this activity.

Fall Protection Standard Committee Service

A PPT scientist has served on the U.S. Technical Advisory Group for Personal Equipment for Protection against Falls (TC94/SC4), Delegation to the International Organization for Standardization (ISO) since 1999.

Keynote Speaker on Falls Prevention

Injury

A PPT scientist delivered a keynote speech on falls prevention for the Slip, Trip, and Fall Symposium at the Ergonomics Society annual conference (UK) in 2005.

Coordinator and Session Chair for Safety and Biomechanical Modeling

A PPT scientist has served as a coordinator and session chair on safety and biomechanics for the Digital Human Modeling for Design and Engineering Conference and Exposition since year 2000.

Editorial and Scientific Consultation

A PPT scientist has served as an editorial board member for the *Safety Science*, *Applied Ergonomics*, *and International Journal of Industrial Ergonomics* journals since 1999, and has served on the Research Committee board for grants and fellowships review for the American Society of Safety Engineers Foundation (ASSEF) since 2004.

Distinguished Research Awards

A PPT scientist has received the prestigious International Ergonomics Association (IEA) Liberty Mutual Prize (2002), National Occupational Research Agenda Partnering Award (2003), NIOSH Alice Hamilton Award (2006), and NIOSH Bullard-Sherwood r2p Transfer of Knowledge Award (2006).

Distinguished Honor

A PPT scientist has been named Fellow of the Ergonomics Society (UK) (2004) and Honorary Fellow of the Human Factors and Ergonomics Society (2005).